

## Energy, Technology, & More!

Science,  
Technology,  
... & More!

**Variety,  
Simple Machines,  
& More!**

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## What's the Difference?

Science,  
Technology,  
... & More!



## Types of Simple Machines

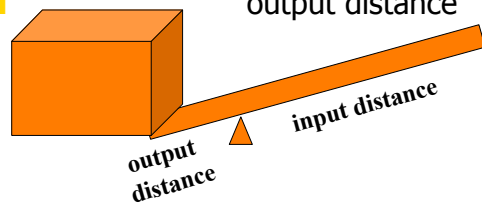
Science,  
Technology,  
... & More!

- Lever
- Wheel/Axle
- Wedge
  - Inclined Plane, Ramp
- Screw
- Pulley
- Gear

## Lever Mechanical Advantage

Science,  
Technology,  
... & More!

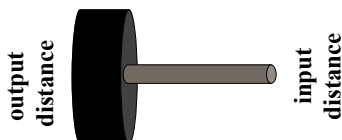
- Theoretical MA =  $\frac{\text{input distance}}{\text{output distance}}$



## Wheel & Axle Mechanical Advantage

Science,  
Technology,  
... & More!

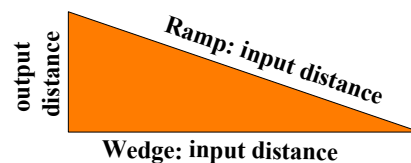
- Theoretical MA =  $\frac{\text{input distance}}{\text{output distance}}$



## Wedge (or Ramp) Mechanical Advantage

Science,  
Technology,  
... & More!

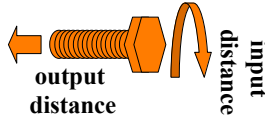
- Theoretical MA =  $\frac{\text{input distance}}{\text{output distance}}$



## Screw Mechanical Advantage

Science,  
Technology,  
... & More!

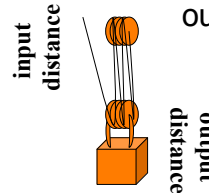
- Theoretical MA =  $\frac{\text{input distance}}{\text{output distance}}$



## Pulley Mechanical Advantage

Science,  
Technology,  
... & More!

- Theoretical MA =  $\frac{\text{input distance}}{\text{output distance}}$



The MA of a pulley is equal to the number of strings holding the object up.

## Quiz Yourself

Science,  
Technology,  
... & More!

- If you want to move a boulder with a lever, where should you place the fulcrum? (Draw a picture and put it in words!)

## For Homework

Science,  
Technology,  
... & More!

- Find any three simple machines at home,
- sketch them,
- label input and output distances,
- and calculate the mechanical advantage.